

given; the specific names of three of them end in “-us”: $\sigma\omega\mu\alpha$, the body, is neuter; therefore these names should end in “-um.” But at least two of the five, viz. *Zetes flavipes*, Koch, and *Oribates fuscus*, Koch, surely belong to the genus *Notaspis*, not *Leiosoma*: then one is stated to be *Leiosoma nitens*, Geoffr.; should not this be Gervais? In the next genus *Cepheus*, *Carabodes coriaceus*, Koch, is introduced; but I cannot see how it can be considered a *Cepheus*, no explanation is given. In the genus *Pelops*, *P. fuliginus*, Koch, is given instead of *P. lavigatus*, Nic.: this may be correct, for they are probably identical, and Koch’s is the earlier name; but if so, Koch described this species three times—first as *Pelops acromios*, Herm., which it is not, then as *P. fuliginus*, and, finally, in all probability, as *P. hirsutus*: his figures and descriptions hardly render certain identification possible, and it would be far better, if it can be done, to preserve Nicolet’s name, which has a good description and figure attached to it. In the genus *Oribata* (or *Oribates*) Dr. Oudemans adopts the masculine termination, but he leaves almost all the species in the feminine: thus he puts “*Oribates pallidula*, Koch,” and *O. fuscomaculata*, Koch; but I do not think that Koch put adjective specific names in the feminine when his genus was masculine. *Oribata coleoptrata* (Linn.) is used instead of Hermann’s well-known name of *alata*; but the species entirely relies on Hermann’s drawing, and although it is customary to suppose that it may have been the *Acarus coleoptratus* of Linnæus, it is far too uncertain to adopt that name and drop Hermann’s. Both *Oribates ovalis*, Koch, and *O. nitens*, Nic., are given; it is very doubtful if these be more than varieties.

It must not for a moment be supposed from these remarks that I underestimate the value of many of Dr. Oudemans’s suggestions.

VI.—Contributions from the New Mexico Biological Station.

—III. The Bees of the Genus *Colletes* found in New Mexico. By T. D. A. COCKERELL.

A. Rather large forms of the type of *C. inæqualis*, with dark, often scarcely banded abdomen in ♀.

- (1) No dark hairs on thorax; a sharp straight transverse keel behind the enclosure at base of metathorax.

Colletes utilis, sp. n.

♀. Length 11 millim., anterior wing $7\frac{3}{4}$ millim.

Stoutly built, black; the rather long pubescence of face,

cheeks, pleura, base of abdomen, and legs greyish white or very pale grey, that of vertex and dorsum of thorax yellowish ochraceous. Face broad, with erect pale grey pubescence except on clypeus and middle of supraclypeal area, which are bare. Clypeus with elongate irregular punctures, the surface between them striate, the sculpture reminding one of the surface of a strawberry. Supraclypeal area shining, with two longitudinal rows of large subconfluent punctures on each side. Vertex very closely and distinctly punctured. Space between eyes and base of mandibles about twice as broad as long. Mandibles black, with a dark rufous ring, tips blunt, notch a fair distance from tip. Labrum with three or four short longitudinal grooves on each side; no central pit. Antennæ wholly dark, flagellum with a very fine sericeous pubescence, first joint of flagellum distinctly longer than second. Thorax quite densely pubescent above; prothoracic spines horizontal, long and slender, easily overlooked amidst the pubescence. Mesothorax moderately shiny, median groove very well marked; punctures very large and distinct, separated from each other by intervals about equal to the diameter of one. Pleura shiny, with strong punctures. Enclosure at base of metathorax very short, coarsely longitudinally plicate, bounded behind by a straight transverse keel. Tegulæ rufo-testaceous. Wings perfectly hyaline, nervures and stigma black. Legs entirely dark, the claws only rufescent, spurs pale brownish. Basal joints of tarsi fairly but not remarkably stout. Pubescence at tips of inner side of tarsi more or less rufous. Abdomen short and stout, hind margin of second segment and slightly of first and third narrowly rufous. Punctuation of first two segments strong and rather close, on a shining surface; of third extremely fine and small, on a microscopically tessellate surface. No hair-bands, but base of first segment with long hairs. Hind trochanters with a thin long curled brush of beautifully ramose hairs.

Hab. Las Cruces, N. M., March 23, on flowers of plum.

(2) With dark hairs on thorax.

(a) Tegulæ piceous, punctuation very strong and close; wings smoky.

Colletes bigeloviae, sp. n.

♀. Length 11 millim., anterior wing $7\frac{1}{2}$ millim.

Very much like *C. armata*, but at once distinguished if attention is given to the following points:—The flagellum is entirely dark beneath, at most very obscurely brownish or rufescent. The unpunctured middle of the supraclypeal area

is sometimes quite dull, sometimes shiny. The face is but sparsely hairy. Head very broad on vertex. Prothoracic spine well formed. Mesothorax very coarsely and densely punctured, so as to be cancellate; median smoother shiny area not much developed. Tegulæ dark vandyke-brown. Wings smoky, nervures and stigma black. Pleura very densely punctured, so as to be cancellate. Abdomen with white hair-bands at base of second and apex of second and following segments, all largely rubbed off in my specimens.

Hab. Mescalero Indian Reservation, Sacramento Mountains, N. M., a short distance below the Agency, rather common at flowers of *Bigelovia graveolens*, var. *glabrata*, Oct. 2, 1896.

This is certainly very near to *armata*, but the slightly larger average size, dark flagellum, smoky wings, and very densely punctured mesothorax may be taken as valid specific characters.

(b) Tegulæ rufo-testaceous, punctuation not so close; wings perfectly clear; flagellum brown beneath; stigma rufo-fuscous.

Colletes armata, Patten, 1879.

One female, Las Cruces, N. M., late summer or early autumn.

Mr. Fox, after comparing it with Cresson's collection, marked it *C. inæqualis*, but Mr. Robertson has since shown that what Cresson took for *inæqualis* was really *armata*. I have the real *inæqualis* from Illinois (Robertson); it is larger, with dark tegulæ and other differences. In several respects (wings, antennæ, tegulæ) it is more like *bigelovia*, but it has the mesothorax shiny, with the punctures separate though close, very different from *bigelovia*.

B. Males as large or larger than *inæqualis*, with black hairs on dorsum of thorax and very large punctures on abdomen.

Colletes gilensis, sp. n.

♂. About 15 millim. long.

Black, the pubescence of head and thorax quite dense except on posterior truncation of thorax, long, greyish white or very pale grey on underparts, tinged with ochreous and mixed with black on thoracic dorsum, dense and silky on lower part of face, covering clypeus. Face longer than broad. Antennæ wholly dark. Vertex shining, with sparse big punctures and little ones between. Mandibles dark, rather blunt, the notch a fair distance from the end. Clypeus

with very large irregular pits. Labrum with a deep elongate median sulcus, bounded on each side by an elevation. Area between eyes and base of mandibles about twice as broad as long. Mesothorax shining, with large well-separated punctures. Prothoracic spine long and conspicuous. Base of metathorax with the usual transverse series of pits, rather irregular, below which the triangle is transversely ridged, with a rather feeble median longitudinal carina. The shiny downward prolongation of the triangle is very narrow. Lateral areas of the posterior truncation dull because minutely roughened. Tegulae rufo-fuscous. Wings long (anterior wing 10 millim.), smoky; nervures and stigma very dark fuscous. Legs black, small joints of tarsi inclining to dark rufous. Pubescence of legs ordinary. Abdomen shiny, with large close punctures; first segment sparsely clothed with erect grey hairs, which on the other segments are replaced by shorter inconspicuous hairs, becoming darker to black caudad. Apical margins of segments 1 to 5 with even very conspicuous bands of white pubescence. The band is wholly lacking on sixth segment. Pubescence of apex fuscous. Venter with white bands like those of dorsum.

Hab. West fork of Gila River, N. M., July 16, two males (C. H. T. Townsend).

It is to be regretted that the female of this, the largest New Mexico *Colletes*, is unknown. A specimen was compared by Mr. Fox with the Cresson collection, and returned marked "near *propinqua*." From the male of *inequalis* (*propinqua*) it differs by its rather larger size, smooth vertex with sparse punctures of two sizes (that of *inequalis* being dull from the very dense punctuation), strong prothoracic spine, larger punctures of abdomen, &c.

C. *Smaller species with well-banded abdomen and without black hairs on thorax, except in a vernal species* (C. *texana*, Cr.).

(1) Distance between eyes and base of mandibles greater than breadth of latter.

(a) Larger; tips of mandibles blunter; punctuation of first abdominal segment stronger and closer.

Colletes Wootoni, sp. n.

♂. About 10 millim. long.

Black, with long, rather dense, greyish-white pubescence, tinged with ochreous on vertex and dorsum of thorax. Eyes unusually prominent, giving the head an odd appearance viewed from in front. Face and cheeks densely covered with

long dull white hairs. Clypeus shining, with sparse but very distinct punctures. Labrum with a median elevation. Vertex closely and strongly punctured. Space between eyes and base of mandibles longer than breadth of latter, striated. Mandibles rufous at extreme tips, which are blunt; notch deep and not far from end. Second and third joints of maxillary palpi conspicuously shorter than first or fourth. Flagellum wholly dark, its first joint about two thirds length of second. Mesothorax shining, with large, rather sparse punctures; hind part of scutellum densely punctured; post-scutellum with fine longitudinal ridges, crossed by finer ones, producing a curious cancellate appearance. Base of metathorax with a series of large elongated pits, separated by sharp keels, the whole bounded behind by a distinct but irregular ridge. Lower part of triangle with a shining depression. Lateral faces of truncation shining, with irregular shallow punctures. Articulating base surrounded above by a smooth area, with radiating keels. Tegulae shining dark brown, with very hairy margins. Wings perfectly hyaline, nervures and stigma piceous, stigma very small. Legs black, with long dull white hairs. Abdomen shining, strongly and rather closely punctured; first segment with long greyish-white hairs; apical margins of segments 1 to 5 with bands of white pubescence, which are continued but very narrowly on venter. Pubescence of extreme apex subfuscous. No black hairs on dorsum of hindmost segments.

Hab. Ruidoso Creek, N. M., 6400 feet, July 8, on a small-flowered *Asclepias* (*E. O. Wooton*).

A pollen-mass of the *Asclepias* is adherent to one of the hind tarsi. Near to *C. compacta*, Cr., ♂, but that has dark hairs on thorax and has not the strong series of pits at base of metathorax.

(*b*) Smaller; tips of mandibles sharper; punctuation of first abdominal segment feebler and more sparse.

Colletes daleæ, sp. n.

♂. About 7 millim. long.

Black, with abundant long white pubescence, duller on dorsum of thorax, but nowhere tinged with ochreous. Eyes very prominent. Face densely covered with silky white hair. Clypeus quite closely punctured, especially down the middle. Labrum with a conspicuous central pit. Mandibles rufous at tips. Space between mandibles and eye coarsely striated, a little longer than broad. Sides of vertex densely

punctured. Antennæ reaching to base of metathorax; flagellum dark, only faintly brownish beneath. Mesothorax shining, with distinct but sparse punctures. A short prothoracic spine. Scutellum shining, its hind third closely punctured. Base of metathorax shining, bounded by a ridge, and separated into quadrate spaces by irregular longitudinal ridges. Posterior truncation shining, the lateral areas sparsely pitted and clothed with long beautifully plumose hairs. Tegulæ testaceous, edges paler. Wings perfectly hyaline; nervures and stigma dull testaceous, subcostal nervure black. Legs black, with sparse white pubescence; tarsi obscure brownish. Abdomen shining, first segment sparsely punctured, the following segments not so sparsely but more obscurely; first segment with long dull white hairs, replaced on following segments by short inconspicuous pubescence, nowhere anything but white. Pubescence of apex white. Segments 1 to 6 with very distinct apical bands of white pubescence, which are continued narrowly on venter.

Hab. Mesilla Park, N. M., June 2, 1896, on flowers of *Dalea scoparia*. Also Las Cruces, N. M., in the town, June 9, 1894.

This must be very near to *C. producta*, Rob., ♂, but that has black tegulæ, and the scutellum is different.

(2) Distance between eyes and base of mandibles less than breadth of latter; much less except in the vernal species.

(a) Pubescence of thorax short, the hairs stout, pubescent, moss-like; abdominal bands broad and appressed; tips of mandibles blunt.

Colletes aberrans, sp. n.

♀. Length about 11 millim.

Black, with short, tolerably dense, pale ochreous pubescence. Head rather broad, vertex depressed; clypeus prominent, practically bare, with punctures running into grooves; face above clypeus with short ochreous pubescence; vertex with a very few large punctures on a surface which appears granular from an exceedingly minute punctuation; ocelli large; checks with short pubescence, that on occiput somewhat longer, not at all mixed with black. The occipital hairs at first seem simple, but a strong lens shows that they are minutely feathered all the way up. Antennæ wholly dark. Mandibles strongly grooved without, medially sub-rufous, very blunt at tips, with the notch a fair distance from the end. Labrum with no distinct median pit. Thoracic dorsum densely covered with pubescence except a central

space on mesothorax and the anterior part of scutellum, both of which exhibit rather sparse very large punctures, and the pitted base of the metathorax. The posterior truncation is quite hairy all over. The hairs on the mesothorax, scutellum, and postscutellum are very short, thick, and moss-like; many are tipped with brown, but this looks like some accidental staining in the cyanide bottle. None are black. These peculiar hairs are very pubescent and result from a shortening of the axis of the hair without a reduction in the number of the lateral cilia, so that the latter become crowded. Tegulæ dark testaceous, pubescent in front. Wings perfectly hyaline; nervures and stigma dark rufous, subcostal nervure black. Third submarginal cell more oblique than usual. Legs tolerably densely pubescent; the hind femora carry a quantity of pollen. Abdomen rather elongate, with short pubescence, reminding one of *Epeolus*. Segments 1 to 4 have broad greyish-white apical bands, 2 and 3 have also broad basal bands, greyer in colour. The first segment is so pubescent that the ground-colour appears as a dark band just before the marginal band. The surface of the abdomen, where exposed, is dullish, closely and minutely punctured. The hair-bands are not continued on to the ventral surface.

Hab. Santa Fé, N. M., July 27, 1895, on flowers of *Petalostemon candidus*; one specimen, no others seen (*Coll.* 3820).

Very easily known by the remarkable character of the thoracic pubescence. The *P. candidus* was at the same time and place visited by *Sphex* and *Bombus*, the latter in fair numbers, gathering the orange pollen.

(b) Pubescence of thorax normal.

- (i.) Dorsum of thorax with some black hairs; punctuation of first abdominal segment excessively sparse.

Colletes texana, Cresson, 1872.

Las Cruces, N. M.; one female on *Salix*, May 2.

Cresson's description, from a single example found in Comal Co., Texas, is rather inadequate, but it tallies precisely with our insect, except that I should not call the wings "short." Length about 10 millim. There is a band at the base of the second abdominal segment, not mentioned by Cresson. Nervures and stigma piceous. Antennæ wholly black.

Distinguished from *compacta* ♀ by the entire band at apex of first abdominal segment, &c.

(ii.) Dorsum of thorax without any black hairs.

a. Small males, with flagellum ferruginous beneath; tarsi ferruginous.

Colletes prosopidis, sp. n.

♂. Length about 7 to 8½ millim.

Very near to *C. daleæ*, the description of which, given above, applies with these exceptions:—The space between eyes and base of mandibles is broader than long. Sides of vertex are sparsely punctured. The flagellum is ferruginous beneath. Hind third of scutellum only sparsely punctured. Base of metathorax sometimes as in *daleæ*, sometimes not distinctly separated into quadrate spaces. Nervures and stigma fuscous or stigma dark ferruginous. Knees and all the tarsi ferruginous, knees sometimes black, hind tibiæ sometimes ferruginous behind. Second abdominal segment with very distinct punctures.

Hab. Las Cruces, N. M.; five at flowers of mesquite (*Prosopis*), May 2; one on foliage of *Populus*, Campus of Agricultural College, May 8 (*Chll.* 2942).

β. Flagellum dark; tarsi little if at all ferruginous, except in *C. Annæ*.

† Punctuation of first abdominal segment feeble and sparse.

§ Cinereous species; no hair-band at base of second abdominal segment in the males. (Compare also *C. salicicola*.)

Colletes Louisæ, sp. n.

♂. Length about 8 millim.

Black, with rather dense greyish-white pubescence, stoutly built, not slender like *daleæ* and *prosopidis*. Head rather broad, vertex distinctly convex seen from in front; face densely covered with long silvery white hair; sides of vertex strongly but sparsely punctured; labrum with three longitudinal grooves, the lateral ones strongest. Mandibles dark, rather unusually slender, the notch some distance from the tip; space between eyes and mandibles a little broader than long. Antennæ wholly dark, not so long as in *daleæ* and *prosopidis*. Pubescence of thorax tolerably dense, but not particularly long; mesothorax with rather sparse but very large and distinct punctures; scutellum sparsely punctured, densely on hind margin; base of metathorax bounded by a sharp ridge and divided by sharp ridges into quadrangular spaces. Prothoracic spine absent or concealed by the pubescence. Tegulæ shining fuscous, finely punctured. Wings perfectly hyaline; nervures and stigma fuscous, subcostal

nervure black. Legs black, ordinary, claw-joint becoming ferruginous. Abdomen short, convex, suboval, shining, with small and sparse but distinct punctures. No black hairs. First segment with long hairs at base and sides; segments 1 to 5 with very distinct white apical bands of appressed hairs, which bands are continued somewhat more narrowly on the venter. First joint of flagellum almost as long as second.

Hab. A few miles E. of Las Cruces, N. M., below the rise, Sept. 27, 1896 (*Chll.*; C 1).

Colletes gypsicolens, sp. n.

♂. Length about 11 millim.

Closely related to *Louisæ*, but considerably larger, and the dorsal pubescence of the head and thorax has a very delicate yellowish tinge, not readily noticed under the lens, but contrasting with the white paper lining of the store-box, giving the insect a quite distinct *facies*. Another peculiarity is found in the mandibles, the rufescent ends of which are broad and flattened, pointed at the tip, like a Roman sword. The labium has merely a shallow median pit or concavity. Sides of vertex closely and minutely punctured. Flagellum entirely black. No prothoracic spine. Mesothorax with large, rather close punctures. Enclosed quadrangles of base of metathorax very few, the middle ones at least considerably broader than long. Lateral areas of posterior truncation shining, hairy, punctured. Tegulæ extremely hairy. Wings perfectly hyaline; nervures black, stigma pale ferruginous or honey-colour. The wings are relatively somewhat shorter than in *Louisæ*. Tarsi sometimes more or less ferruginous, especially the hind tarsi, which may be conspicuously so. Abdominal punctures very minute. White bands very broad and distinct. Hind margin of sixth segment hyaline.

Hab. White Sands by Whitewater, N. M., on flowers of *Bigelovia*, Oct. 6, four males (*C. H. T. Townsend*; C 36).

This interesting species is probably peculiar to the White Sands, an enormous deposit of pure gypsum extending for many miles, looking exactly like banks of snow.

Colletes, sp. n.

♀. Length about 10 millim.

Abdomen narrow, elongate, tapering, after the manner of *C. nitidus*, Smith, with very distinct white hair-bands. When the segments are extended it is seen that the bases of the second and third are hairy. I give this form no name, as

I have no doubt it will prove to be the female of *Louisæ*, *daleæ*, or *prosopidis*. It is most like *Louisæ*, and, by analogy with *nitidus*, should have a male with the abdomen shaped as in *Louisæ*; the latter, however, flies at a different time of year and has a more distinctly punctured abdomen. More probably, perhaps, the present insect belongs with *daleæ*, which flies at the same season; but against this supposition is the difference in the length of the space between the eye and mandible. The dark flagellum (faintly brown beneath) and tarsi suggest *daleæ* rather than *prosopidis*.

It had been queried whether this insect might be Cresson's *albescens*, but that has the abdomen "very closely" punctured, which certainly is not true of our species. The nervures of our insect also are piceous or black, not "rufo-testaceous," while our tegulæ are clear testaceous, those of *albescens* being piceous.

Hab. San Marcial, N. M., two specimens, June 28, 1895 (*Coll.* 3101, 3112); Las Cruces, N. M., one, June 8, 1894, in the town (*Coll.* 866); another on parsnep, June.

§§ Ochreous species of small size; base of second abdominal segment hairy; tarsi ferruginous.

Colletes Annæ, sp. n.

♂. Length about 8 millim.

Black, with dense pale ochraceous pubescence, becoming white on the cheeks and femora. Head broad; face densely covered with pubescence, which has a distinct yellowish tinge. Antennæ long, wholly black; first joint of flagellum very short, scarcely more than half as long as second. Sides of vertex inconspicuously and rather sparsely punctured. Mandibles stout, rufous at ends, blunt at tips, notch a fair distance from tip. Space between eye and mandible unusually short, more than twice as broad as long. Labrum with an obscure median pit. Mesothorax with very large and distinct, not very close, punctures. Base of metathorax with quadrate spaces, broader than long, enclosed by a sharp rim. Posterior truncation shining. Tegulæ rufo-testaceous, very pubescent. Wings perfectly hyaline, iridescent; nervures and stigma ferruginous. Second submarginal cell very little narrowed above. Legs black, with all the tarsi and the extreme ends of the tibiæ ferruginous; tarsi ciliated with long hairs. Abdomen rather narrow and elongate, very hairy, with minute punctures, sparse on first segment, and nowhere dense. First segment covered with long hair; segments 1

to 5 with very broad apical bands of light ochraceous pubescence, base of second segment also hairy. Ventral hair-bands very narrow at sides, widening to the middle.

Hab. Mesilla, N. M., Aug. 29, 1896, on flowers of *Bigelovia Wrightii*.

From the male of *C. americana* this will be known by the colour of the legs. One would take it for the undescribed male of *C. ciliata*, Patton, but for the very strong punctuation of the thorax.

†† Punctuation of first abdominal segment strong, feeblest and sparsest in a species from *Salix* (*C. salicicola*).

§ Lateral faces of posterior truncation of thorax dull; the shiny triangle narrowed below.

x. Larger; hind spur of hind tibia barely ciliate.

Colletes æstivalis, Patton, 1879.

Ruidoso Creek, N. M., 6600 feet, July 10, on *Rhus*, six females, one male (*E. O. Wooton*).

These differ in no important respect from a specimen of *æstivalis* from Illinois, received from Mr. Robertson.

xx. Smaller; hind spur of hind tibia very finely but very distinctly pectinate.

Colletes chamæsarachæ, sp. n.

♀. Length about 10 millim.

Black, with short dull grey pubescence. Head tolerably broad; eyes not bulging at top; face and cheeks with sparse grey pubescence; clypeus bare, shining, strongly but not very densely punctured; sides of vertex sparsely punctured, shining; a broad dull groove in front of the upper part of each eye; labrum with a deep median longitudinal furrow; mandibles stout, rounded at tips, the notch near the end; space between mandible and eye very short; flagellum dark brown beneath from the third joint to the end, its second joint shorter than the third and only half as long as the first. Prothoracic spine rather short, but very slender and sharp. Mesothorax with very large close punctures, absent on disk. Anterior half of scutellum impunctate, posterior half with large punctures. Base of metathorax divided by ridges into quadrate spaces which are longer than broad. Lateral faces of posterior truncation irregularly and obscurely reticulate, dullish because microscopically lineolate or subreticulate.

Pleura closely punctured, subcancellate. Thoracic pubescence short and rather sparse, dull yellowish grey or, one might say, pale greyish ochreous. Tegulæ shining piceous, not noticeably punctured. Wings hyaline; nervures piceous, stigma fuscous. Legs with mouse-coloured pubescence; tarsi dark; tibial spurs dark brown; hind spur of hind tibia pectinate, with about fifteen teeth. Inner tooth of claw short, diverging from the outer. Abdomen rather narrow, subconical, moderately shiny, punctuation of first segment fine but strong and rather close, of the remaining segments minute and obscure. Base of first segment sparsely hairy; hind margins of segments 1 to 4 with bands of whitish pubescence; second segment very feebly pubescent at extreme base. Venter with rather abundant fairly long mouse-grey pubescence.

Hab. Santa Fé, N. M., at flowers of *Chamaesaracha coronopus* in grounds of Capitol, Aug. 2 (*Coll.* 4081).

The punctuation of the first abdominal segment is conspicuously finer than in *estivalis*.

§§ Lateral faces of posterior truncation of thorax shining or tuberculate, not minutely roughened.

x. Punctuation of first abdominal segment relatively sparse and fine; vernal species.

Colletes salicicola, sp. n.

♀. Length about 10 millim.

Stoutly built, black (including tarsi), with rather short but abundant pale grey or greyish-white pubescence, faintly tinged with yellowish on dorsum of thorax. Head tolerably broad, but hardly as broad as thorax; vertex depressed, its sides sparsely punctured, contrasting with the closely punctured front. Pubescence of face and cheeks tolerably abundant "frightened mouse" colour. Clypeus with very large sparse punctures. Antennæ wholly dark, first joint of flagellum not twice as long as second. Mandibles wholly dark, blunt. Labrum with a round median pit. Space between eye and base of mandible about twice as broad as long. Prothoracic spine apparently wanting. Mesothorax with large, rather sparse punctures. Base of metathorax with numerous spaces, longer than broad, enclosed by ridges. Sides of posterior triangle obliquely ridged. Lateral faces of posterior truncation shining, distinctly but sparsely punctured. Tegulæ pale testaceous, shining. Wings perfectly hyaline; nervures and stigma black, costal nervure brown. Second submarginal

cell narrower than usual. Legs with pale grey pubescence, white on first four femora. Tibial spurs pale; hind spur of hind tibia barely ciliate. Abdomen broad, suboval, shining; first segment with very distinct but very sparse punctures; second segment more closely punctured, the punctures perfectly distinct on a shining surface; first segment with a thin pale grey pubescence all over; segments 1 to 5 with broad apical bands of white hair, which are not continued on to the venter. Bases of segments also pubescent. No black hairs.

Var. *a*.—Posterior triangle of thorax without ridges.

Hab. Las Cruces, N. M., on *Salix*, May 2 and 3.

This is much like *Louisæ*, but flies at a different time of year. In *salicicola* the stigma is black, in *Louisæ* it is ferruginous and tapers more at the end. There is little difference in the punctuation of the abdomen. *C. Louisæ* has conspicuous white ventral hair-bands, which are wholly lacking in *salicicola*.

xx. Punctuation of first abdominal segment relatively strong and close; summer and autumn species.

Colletes americana, Cresson, 1868.

I have several lots of specimens which must be referred to *americana*, for, although they present differences among themselves, I fail to find satisfactory specific characters to separate them. Nevertheless, it is probable that one or two segregates may be established hereafter with close study of more abundant material. The specimens referred to are:—

- (1) A female from Watrous, N. M., 6200 feet, July 13. Peculiar for its sharp mandibles, with the notch very distinct and a good distance from the end. Abdomen very pubescent, including bases of second and third segments.
- (2) A female, Las Vegas, N. M., July. Mandibles blunt, with the notch very near the end. Abdomen hairy, as in the Watrous example.
- (3) Six males, Tuerto Mountain, near Santa Fé, N. M., 7850 feet, Aug. 7, flying over damp sand in numbers. Mandibles sharp, notch near end.
- (4) A male, Santa Fé Cañon, N. M., 7625 feet, on flowers of *Rudbeckia laciniata*, Aug. 11.
- (5) Santa Fé, N. M. One female, Mr. Boyle's garden, July 25, 1895, at flowers of *Sphaeralcea angustifolia*. One male, July 25, 1894. One male, July 18, at white *Clematis* flowers.

- (6) A female, west fork of Gila River, N. M., July 16 (*C. H. T. Townsend*). This looks like a distinct species, but Mr. Fox, after comparing it with the Cresson collection, refers it to *americana*. The abdomen is not so hairy as in the others, and the hair at the bases of the segments after the first is lacking. The punctures on the second segment are conspicuously finer and closer than those on the first.
- (7) Mesilla, N. M., two males on *Bigelovia Wrightii*, Aug. 29, 1896.
- (8) Las Cruces, N. M., two males on *Bigelovia Wrightii*, end of August. Two males on *Solidago canadensis* by Schaublin's mill, Sept. 3 and 4.

Mesilla, New Mexico, U.S.A.,
Nov. 14, 1896.

VII.—*On Cteniform Spiders from the Lower Amazons and other Regions of North and South America, with List of all known Species of these Groups hitherto recorded from the New World.* By F. O. PICKARD CAMBRIDGE, B.A.

[Plates III. & IV.]

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